

**Students' Personality Traits and Academic Performance: A Five-Factor Model Perspective***by Mohammed Chowdhury***Abstract**

This study has investigated the impact of personality traits on students' academic achievement in an undergraduate marketing course taught by the same professor. All personality traits except extraversion positively and significantly predicted students' overall grade. Extraversion was positively related ($r = .140$) but not statistically significant. Openness ($r = .279$) and Neuroticism ($r = .341$) were positively related to students' academic achievement and were more important predictors of overall grade of the students than agreeableness ($r = .245$) and conscientiousness ($.237$). Implications and directions for future research are discussed.

Introduction

Students differ in their personal values; they receive and process information differently; their personality trait is different and hence, so also is their understanding. It is often argued that a blend of personality characteristics is necessary for people to be successful in their career. Educators, researchers, and psychologists have been constantly searching for parsimonious set of variables that predicts patterns of students' behaviors and their relationship to academic achievement. Personality has been recognized as a determining factor on how people learn (Lawrence, 1997; Myer et al, 1998). College students tend to prefer learning environments consistent with their own personality type preference. Many scholars have accepted five-factor model of personality as a replicable and unifying taxonomy of personality (Digman, 1990; Goldberg, 1992; Witt et al, 2002) and have found personality traits to be significantly related to successful job and school performance, both logically and statistically (Hogan & Hogan, 1989; Day & Silverman, 1989).

However, there is a lack of adequate research addressing the role of personality as a predictor of achievement in an introductory marketing course. The purpose of this study is, therefore, to examine the impact of personality type on the academic performance of students in an introductory marketing course using five-factor model of personality.

Objectives

- To investigate the relationship between Five Factor Model of Personality (FFM) and students' performance in an introductory marketing course

- To examine which specific personality traits predict marketing students' performance in their introductory marketing courses.

Studies on Students' Personality Characteristics: A Brief

The Big-5 (Five-factor model of personality) has been developed after years of testing by factor-analyzing a large number of personality traits. The Big Five model was commonly derived from work by Cattell et al (1970). The next advance in the big-five theory was made by Norman (1963). Norman selected 20 of the Cattellian variables –four for each factor. He then used these variables for undergraduate peer ratings, which were then factor analyzed. The study of Norman is seen as empirical support for the big-five structure. The Big –5 are commonly used because they combine the best of Cattell's (1970) comprehensive list of personality traits with the best of Eysenck's (1991) concise list. Listed with their corollaries, they are:

Extroversion — Introversion
Neuroticism — Stability
Agreeableness — Antagonism
Conscientiousness — Undirectedness
Openness — Nonopenness

Other similar systems exist and may be preferred by certain organizations and professionals, but it is the 16PF in its various forms that is universally understood. A brief description of the Big Five runs as follows:

Extroversion: Extraverts are usually sociable, talkative and communicative, and friendly. They are described as active, bold, assertive, exciting, and stimulating (Costa and McCrae, 1992; Goldberg, 1992). Introverts on the other hand tend to be reserved, even-paced and independent. Schniederjan et al (2005) found extraversion to predict academic success.

Conscientiousness: A conscientious student concentrates on only a couple of goals and strives hard to achieve them. They are predisposed to be organized, exacting, disciplined, diligent, dependable, methodical, and purposeful. Conscientiousness has been linked to educational achievement and particularly to the will to achieve (Howard & Howard, 1998). In work settings, recent research has demonstrated that managers perceive cognitive ability and conscientiousness as the most important attributes related to applicants' hirability (Mount & Barrick, 1995). Conscientiousness has been found to be of special interest to educators. (De Fruyt & Mervielde, 1996). Blickle (1996) has demonstrated that conscientiousness is related to learning outcome mediated by learning strategies. Conscientious students are good at organizing their work, managing their time and studying hard with clear goals (Entwistle & Tait, 1996). They have an intrinsic motivation and a positive attitude (Entwistle, 1988). Students low in conscientiousness tend to be less careful, less focused and more likely to be distracted from tasks.

Agreeableness: Agreeableness or likeability (Hogan, 1996) refers to such traits as selflessness, good-natured, gentle, cooperative, flexible, tolerance, generous, sympathetic, courteous, striving for common understanding, and maintaining social affiliations (Digman, 1990). Goldberg (1992) found Agreeableness to be associated with tendencies toward kindness, unselfishness, generosity, and fairness. Descriptions of agreeableness focus on social interactions. Students low in agreeableness tend to be more aggressive and less cooperative.

Neuroticism: The individuals who score high on neuroticism tend to experience effects such as fear, sadness, embarrassment, disgust and anger. Those who score low in this area are usually calm, even-tempered and relaxed at work and in their personal lives. An emotionally intelligent person recognizes and understands the potential consequences of their different emotional states and is able to regulate and control them. Little evidence was found between emotional intelligence and academic intelligence but strong relationships were found between the emotional intelligence dimensions (empathy, autonomy, and emotional control) and the big five, particularly with extraversion and emotional stability (Karen et al, 2002). Schneiderjan et al (2005), however, found strong correlation between emotional stability and academic success in web-based business course. One might argue, in this instance, that students learn better when they are in the company of members of their species other than themselves.

Openness to experience: The individuals scoring high for this trait demonstrate imagination, innovativeness, rule breaking and those who score low tend to act more conventionally and have a conservative outlook. These individuals feel both the good and the bad deeply (Cooper and Miller, 1991), rendering its directional influence on affective reactions like subjective well-being or performance satisfaction unclear. The separation between them and neurotics is that neurotic individuals experience more negative life events than other individuals. While neuroticism entails anxiety and depression (Mount and Barrick, 1995, Costa and McCrae, 1992), characteristics that do not link to the motivational goals and potentially distract from rather than enhance performance. Openness to experience does not appear to be related to any of the motivational strategies as it entails creativity, sophistication and curiosity (Barrick and Mount, 1991).

Previous researches have demonstrated a relationship between the five- factor model of personality and academic achievement (Costa & McCrae, 1992). This relationship between personality type and course success has well been documented in the studies of Cattell and Butcher (1968), Eysenck (1967) and Kline (1977). McKenzie (1989) found extraversion to be negatively correlated with success in higher education but found no clear-cut relationship between neuroticism and students' academic achievement. In a study of the relation between personality and academic achievement, Masgrave- Marquart, Bromley, and Dalley (1997) found significant positive correlations between GPA (grade point average) and conscientiousness, openness, and neuroticism. Finally, DeRaad and

Schouwenburg (1996) found that the big five factors of extraversion, conscientiousness, and openness to experience are educationally relevant.

Hypothesis

Based on the preceding discussion, the following hypothesis was proposed:

Big Five personality traits are significantly related to students' academic success in an introductory marketing course.

Methodology

Sample

We collected data from 130 students of an introductory marketing course taught in class. Of these individuals, 44% were males and 56% were females. Demographic information such as age, gender was collected, as well as final numeric student grades in the course at the end of the 2001- 2002 academic year.

Measures

During classes at the start of the semester, a personality inventory was administered to the students. We used personality using the 10-item conscientiousness and 7-item agreeableness, 8 items neuroticism, 9 items extraversion, and 7 items openness derived from the personality inventory questionnaire of Buchanan (2001) based on Five-Factor Modality (FFM). Cronbach Alpha reliabilities have been found to be sufficient for all personality trait sub-scales, ranging from .88 to .94. The students rated each item on a 5-point Likert-type scale (1= strongly disagree, 5 = strongly agree). The FFM is based in a belief that people are rational beings and count for their own personality and behaving, can analyze their own actions and reactions (McCrae & Costa, 1996). One of the best proofs for the FFM is the convergence between lay-observer ratings, expert ratings and self-reports (McCrae & Costa, 1996).

Academic Achievement Measure

At the end of 2002 -2003-education year during when the questionnaire was administered, achievement grades for all the lessons received by all students who filled in the questionnaire were obtained. Achievement grades were summed and total obtained was divided into the number of lessons received by the students. We used students' grades (D=1; C=2; B=3, and A=4) to measure students' academic achievement.

Data Analysis

The research objective was examined by computing Pearson correlations between the FFM domain scores on the one hand and the student grades on the other hand. Next we conducted multiple regression analysis-taking grades as dependent variable, and the scores of five personality traits as independent variables

Results

Table 1 presents the descriptive statistics of scales and academic

achievement. The table shows the mean of students' academic achievement and the means of their personality traits (agreeableness, conscientiousness, openness, extroversion, and neuroticism) and Pearson correlation that shows the relations between the dependent variable (grade) and independent variables (students' personality traits).

Table 1: Descriptive Statistics of Scales and Grade (Academic Achievement) and Pearson Correlation among the variables.

	Mean	SD	Agree	Cons	Open	Extra	Neuro	Grade
Agree	3.33	.48	1	.545**	.636**	.360**	.555**	.245**
Cons	22.88	4.46	.545**	1	.573**	.514**	.574**	.237**
Open	31.53	5.62	.636**	.573**	1	.310**	.654**	.279**
Extra	21.24	6.2	.360**	.514**	.310**	1	.295**	.140
Neuro	29.64	5.77	.555**	.574**	.654**	.295**	1	.341**
Grade	22.17	5.36	.245**	.237**	.279**	.140	.341**	1

** Correlation is significant at the 0.01 level (2-tailed)

According to the findings, all personality traits except extraversion were found to be significantly correlated to students' academic achievement. However, though not statistically significant, there is a positive correlation between extroversion and students' grade ($r = .140$). All other variables except age were correlated among themselves. Finally, regression analysis was performed to clarify the influence of the students' personality traits and academic achievement. As table 2 shows, significant effect was observed for personality traits and academic achievement.

Table 2
Regression results for Relationships between Personality Traits and Students' Academic Performance:

		Academic Performance (Grade)	
Personality Traits	B	T	Significance Level
Agreeableness	.245	2.85	.005
Conscientiousness	.237	2.76	.007
Openness	.279	3.28	.001
Extraversion	.140	1.89	.112
Neuroticism	.341	4.1	.000

Discussion

The emergence of the five-factor model of personality provides a useful framework for examining the relationship between personality constructs and students' performance in the course. Of the five personality constructs under the study, agreeableness is usually expected to have weak relationships with overall performance. The one situation in which agreeableness appears to have high predictive validity is in students' work that involve considerable interpersonal

interactions, particularly when the interactions involve helping, and cooperating with others (e.g. group project assignment, group work in the classroom etc). In the present study agreeableness proved to be significant statistically, but with weaker relationship ($r=.245$). This study reports positive but not statistically significant correlation between students' academic achievement and the psychological type of extraversion. This supports the study of by McCown and Johnson (1991), who found that extraverted students engaged in more social and impulsive activities, and spent few hours a day in studying. The results of regression analysis reveal that openness, and neuroticism are more important predictors of students' academic performance than conscientiousness and agreeableness and is in consistent with the studies of Nguyen, Allen & Fraccastoro (2005).

Implications

A personality type play an important role in a student's understanding of marketing, as measured by standard measures of students' performance and has got great implications for teaching. Personality traits are expressed in learning styles, which are, in turn, reflected in learning strategies and eventually produce a learning outcome (De Raad & Schouwenburg, 1996). Therefore, an understanding of the students' personality traits becomes an important pedagogical tool. Understanding the students' personality traits in which students gather and process information (manners and ways) can lead to more effective pedagogies that will benefit both students and teachers in marketing and other business subjects.

Directions for Future Research

The personality traits in this study have been considered independently only in the prediction of performance. Other variables like students' self-efficacy and demographics may influence these personality traits and students' performance. Many scholars argue that this sort of personality research begs certain "nature-nurture" "biological-cultural" questions. For example, it has been argued that "Openness" reflects increased level of dopaminergic function and is related to the functions of the dorsolateral prefrontal cortex. This has been the basis for asserting a link between Openness and IQ (DeYoung, Peterson & Higgins, 2005). Future research is, therefore, needed to examine the effects of these on students' personality and performance. Moreover, since the way in which each trait operates, in part, on the pattern of other traits (Hogan, Hogan & Roberts, 1996), future work is needed to examine interactions effects of the big five dimensions of personality.

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